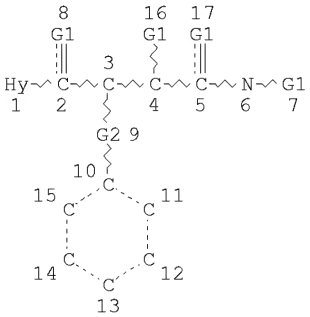
```
=> b reg
FILE 'REGISTRY' ENTERED AT 17:20:58 ON 17 SEP 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2009 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   16 SEP 2009  HIGHEST RN 1185221-67-3
DICTIONARY FILE UPDATES:  16 SEP 2009  HIGHEST RN 1185221-67-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d que sta l7
L5              STR
```




```
VAR G1=O/S
VAR G2=AK/ID
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS E4 C  E2 N  AT   1

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  17

STEREO ATTRIBUTES: NONE
L7           74 SEA FILE=REGISTRY SSS FUL L5

100.0% PROCESSED   27415 ITERATIONS                          74 ANSWERS
SEARCH TIME: 00.00.02



=> b zcap
FILE 'ZCAPLUS' ENTERED AT 17:21:08 ON 17 SEP 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)


Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.
```

FILE COVERS 1907 - 17 Sep 2009 VOL 151 ISS 12
FILE LAST UPDATED: 16 Sep 2009 (20090916/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

ZCAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

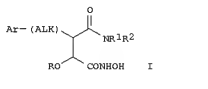
The ALL, BIB, MAX, and STD display formats in the CA/CAplus family
of databases have been updated to include new citing references
information. This enhancement may impact record import into
database management software. For additional information, refer
to NEWS 9.

=> d bib abs hitrn fhitstr l10 tot

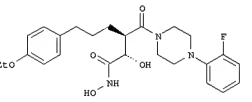
L10 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN
AN 2005:182646 ZCAPLUS
DN 142:280227
TI Preparation of hydroxamates as matrix metalloproteinase inhibitors
IN Pain, Gilles; Davies, Stephen John; Bombrun, Agnes
PA Vernalis Oxford Limited, UK; Laboratoires Serono S.A.
SO PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO--2005019194	A1	20050303	2004WO-GB0003558	20040818
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU--2004266896	A1	20050303	2004AU-000266896	20040818
CA-----2536576	A1	20050303	2004CA-002536576	20040818
EP-----1660471	A1	20060531	2004EP-000768117	20040818
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP--2007503422	T	20070222	2006JP-000524410	20040818
CN-----1930139	A	20070314	2004CN-080023748	20040818
KR--2006037446	A	20060503	2006KR-000703187	20060216
MX---2006001865	A	20060920	2006MX-000001865	20060216
NO---2006001302	A	20060519	2006NO-000001302	20060322
ZA---2006002358	A	20070926	2006ZA-000002358	20060322
IN---200600997	A	20070615	2006IN-000000997	20060323
US--20060281920	A1	20061214	2006US-000568433	20060808
PRAI 2003GB-000019917	A	20030823		
2003GB-000028632	A	20031210		
2004WO-GB0003558	W	20040818		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OS CASREACT 142:280227; MARPAT 142:280227
GI



I

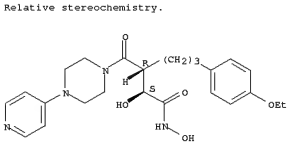


II

AB Title compds. I [wherein Ar = (un)substituted (hetero)aryl or (hetero)cycloalkyl; R = H or (cyclo)alkyl; Alk = alkylene or alkenylene; R1 and R2 link together to form (un)substituted heterocycloalkyl rings which is optionally fused to (un)substituted (hetero)cycloalkyl rings; and

L10 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)
847038-64-6P, 6-(4-Methoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(pyridin-2-yl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide
847038-66-8P, 6-(4-Fluorophenyl)-(3R)-[[4-(2-fluorophenyl)piperazin-1-yl]carbonyl]-(2S)-hydroxyhexanoic acid hydroxyamide **847038-68-0P**,
6-(4-Fluorophenyl)-(2S)-hydroxy-(3R)-[[4-(pyridin-2-yl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847038-70-4P**,
(3R)-[(4-Benzyl-(2S)-methylpiperazin-1-yl)carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide **847038-72-6P**,
(3R)-[(4-Benzyl-(2S)-methylpiperazin-1-yl)carbonyl]-6-(4-methoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide **847038-74-8P**,
(3R)-[(4-Benzyl-(2S)-isobutylpiperazin-1-yl)carbonyl]-6-(4-methoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide **847038-76-0P**,
(3R)-[(4-Benzyl-(2S)-methylpiperazin-1-yl)carbonyl]-6-(4-fluorophenyl)-(2S)-hydroxyhexanoic acid hydroxyamide **847038-78-2P**,
(3R)-[(4-Benzyl-(2S)-isobutylpiperazin-1-yl)carbonyl]-6-(4-fluorophenyl)-(2S)-hydroxyhexanoic acid hydroxyamide **847038-80-6P**,
4-[5-(4-Ethoxypnenyl)-(2R)-[(1S)-(hydroxy)(N-hydroxycarbamoyl)methyl]pentanoyl]-(2S)-methylpiperazine-1-carboxylic acid tert-butyl ester **847038-82-8P**,
4-[5-(4-Ethoxyphenyl)-(2R)-[(1S)-(hydroxy)(N-hydroxycarbamoyl)methyl]pentanoyl]-(2S)-isobutylpiperazine-1-carboxylic acid tert-butyl ester **847038-84-0P**,
4-[5-(4-Methoxyphenyl)-(2R)-[(1S)-(hydroxy)(N-hydroxycarbamoyl)methyl]pentanoyl]-(2S)-methylpiperazine-1-carboxylic acid tert-butyl ester **847038-86-2P**,
4-[5-(4-Methoxyphenyl)-(2R)-[(1S)-(hydroxy)(N-hydroxycarbamoyl)methyl]pentanoyl]-(2S)-isobutylpiperazine-1-carboxylic acid tert-butyl ester **847038-88-4P**,
4-[5-(4-Fluorophenyl)-(2R)-[(1S)-(hydroxy)(N-hydroxycarbamoyl)methyl]pentanoyl]-(2S)-methylpiperazine-1-carboxylic acid tert-butyl ester **847038-90-8P**,
4-[5-(4-Fluorophenyl)-(2R)-[(1S)-(hydroxy)(N-hydroxycarbamoyl)methyl]pentanoyl]-(2S)-isobutylpiperazine-1-carboxylic acid tert-butyl ester **847038-92-0P**,
6-(4-Ethoxyphenyl)-(2S)-methoxy-(3R)-[[4-(2-fluorophenyl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(inhibitor; prepn. of hydroxamates as MMP inhibitors)
IT **847039-40-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of hydroxamates as MMP inhibitors)
IT **1044658-54-9**
RL: PRPH (Prophetic)
(Preparation of hydroxamates as matrix metalloproteinase inhibitors)
RN 1044658-54-9 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-4-(4-pyridinyl)-, (αR,βS)-rel- (CA INDEX NAME)

Relative stereochemistry.



OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)
enantiomers, diastereoisomers, salts, hydrates or solvates thereof] were prepd. as inhibitors of matrix metalloproteinases. For example, II was synthesized starting from (2S)-Hydroxysuccinic acid diisopropyl ester in several steps, which showed inhibitory activity against MMP-9, MMP-2, MMP-1 and MMP-12 with IC50 values of <100 nM, <100 nM, >10000 nM, <100 nM, resp. II also showed 57% inhibition of IL2-induced peritoneal recruitment of lymphocytes at the dose of 3 mg/kg (vs. 76% inhibition by dexamethasone at the dose of 1 mg/kg). In general, I are selective inhibitors of MMP-12 and MMP-9 relative to the collagenases and stromelysins. Therefore, I and pharmaceutical comprns. thereof are useful in the treatment or prophylaxis of diseases or conditions primarily mediated by MMP-12 and/or MMP-9, esp. inflammatory conditions, such as multiple sclerosis and fibrosis.
IT **1044658-54-9**
RL: PRPH (Prophetic)
(Preparation of hydroxamates as matrix metalloproteinase inhibitors)
IT **847037-74-5P**, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(3-methoxyphenyl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847037-76-7P**, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(4-methoxyphenyl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847037-78-9P**, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(pyridin-2-yl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847037-80-3P**, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(pyridin-4-yl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847037-92-7P**, (3R)-[[4-[(Benzodioxol-5-yl)methyl]piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide **847037-94-9P**, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-[(pyridin-4-yl)methyl]piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847037-96-1P**, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-benzylpiperazin-1-yl)carbonyl]hexanoic acid hydroxyamide **847037-98-3P**, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(pyrimidin-2-yl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847038-00-0P**, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(4-trifluoromethylpyrimidin-2-yl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847038-02-2P**,
6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(4-chloropyrimidin-2-yl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847038-04-4P**,
(3R)-[[4-(4,6-Dimethoxy-[1,3,5]triazin-2-yl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide
847038-06-6P, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(3-trifluoromethylphenyl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide
847038-08-8P **847038-19-1P** **847038-21-5P**,
(3R)-[((3S)-Benzyl-4-benzylpiperazin-1-yl)carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide **847038-23-7P**
847038-26-0P, 4-[4-[(Benzodioxol-5-yl)methyl]piperazin-1-yl]-(2S)-hydroxy-N-hydroxy-4-oxo-(3R)-(4-trifluoromethoxybenzyl)butyramide
847038-34-0P, 4-[4-[(Benzodioxol-5-yl)methyl]piperazin-1-yl]-(3R)-(4-benzyloxybenzyl)-(2S)-hydroxy-N-hydroxy-4-oxobutyramide
847038-40-8P, 6-[3,5-Bis(trifluoromethyl)phenyl]-(2S)-hydroxy-(3R)-[[4-(pyridin-2-yl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide
847038-46-4P, (3R)-[((2S)-Benzyl-4-methylpiperazin-1-yl)carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide
847038-48-6P, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-[(4-trifluoromethoxyphenyl)sulfonyl]piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847038-50-0P**,
6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(4-tolylsulfonyl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847038-52-2P**,
(3R)-[[4-[(5-Bromothien-2-yl)sulfonyl]piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide
847038-54-4P, (3R)-[[4-[(5-Phenylsulfonylthien-2-yl)sulfonyl]piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide **847038-56-6P**,
(3R)-[[4-(4-Butoxyphenylsulfonyl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide
847038-58-8P, 6-(4-Ethoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(4-methoxy-2,3,6-trimethylphenylsulfonyl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide **847038-60-2P**,
(3R)-[[4-[(3,4-Dimethoxyphenyl)sulfonyl]piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-(2S)-hydroxyhexanoic acid hydroxyamide
847038-62-4P, 6-(4-Methoxyphenyl)-(2S)-hydroxy-(3R)-[[4-(2-fluorophenyl)piperazin-1-yl]carbonyl]hexanoic acid hydroxyamide

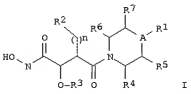
```
=> d bib abs hitstr l11 tot
```

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN
AN 2006:101557 ZCAPLUS
DN 144:171021
TI Preparation of piperazine and related N-hydroxy succinic acid diamide derivatives as metalloproteinase inhibitors with therapeutic uses
IN Swinnen, Dominique; Bombrun, Agnes; Gonzalez, Jerome; Crosignani, Stefano; Gerber, Patrick; Jorand-Lebrun, Catherine
PA Applied Research Systems Ars Holding N.V., Neth. Antilles
SO PCT Int. Appl., 203 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

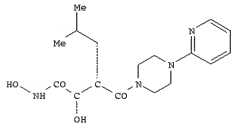
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO--2006010751	A1	20060202	2005WO-EP053616	20050725
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
AU--2005266313	A1	20060202	2005AU-000266313	20050725
CA-----2570903	A1	20060202	2005CA-002570903	20050725
EP-----1771421	A1	20070411	2005EP-000772035	20050725
EP-----1771421	B1	20090429		
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
CN-----1989106	A	20070627	2005CN-080025086	20050725
JP---2008507575	T	20080313	2007JP-000523074	20050725
BR---PI0513878	A	20080520	2005BR-000013878	20050725
ZA---2007000744	A	20080827	2007ZA-000000744	20050725
AT------430133	T	20090515	2005AT-000772035	20050725
IN---2006070460	A	20070622	2006IN-000007460	20061211
MX---2007001022	A	20070412	2007MX-000001022	20070125
US--20080021028	A1	20080124	2007US-000572761	20070126
KR---20070046873	A	20070503	2007KR-000704004	20070220
NO---2007000994	A	20070426	2007NO-000000994	20070221
PRAI 2004EP-000103574	A	20040726		
2004US-00591111P	P	20040726		
2005EP-000100641	A	20050131		
2005US-00648924P	P	20050201		
2005WO-EP053616	W	20050725		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OS MARPAT 144:171021
GI

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)



I



II

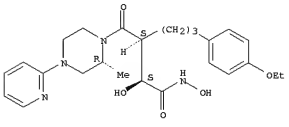
AB The present invention is related to piperazine and related N-hydroxy succinic acid diamide derivs. (shown as I; variables defined below; e.g. (2S,3S)-N-hydroxy-2-hydroxy-5-methyl-3-[[4-(2-pyridinyl)-1-piperazinyl]carbonyl]hexanamide (shown as II)) and use thereof, in particular for the treatment and/or prophylaxis of autoimmune disorders, inflammatory diseases, cardiovascular diseases, neurodegenerative diseases, cancer, respiratory diseases and fibrosis, including multiple sclerosis, arthritis, emphysema, chronic obstructive pulmonary disease, liver and pulmonary fibrosis. A = -C(B)- and N; B is H or B forms a bond with either R5 or R7; R' = H, C1-C6 alkyl, C2-C6 alkenyl, C2-C6 alkynyl, C3-C8-cycloalkyl, heterocycloalkyl, aryl, heteroaryl, C3-C8-cycloalkyl C1-C6 alkyl, heterocycloalkyl C1-C6 alkyl, heteroaryl C1-C6 alkyl, amino and alkoxy; R2 = H, C1-C6 alkyl, C2-C6 alkenyl, C2-C6 alkynyl, C3-C8-cycloalkyl, heterocycloalkyl, alkoxy, aryl and heteroaryl; R3 = H, C1-C6 alkyl, C2-C6 alkenyl and C2-C6 alkynyl; R4, R5, R6 and R7 = H, C1-C6 alkyl, C2-C6 alkenyl, C2-C6 alkynyl; or R4 and R7 form together a -CH2- linkage; n is an integer = 1, 2, 3, 4, 5 and 6; Carbons (2) and (3) are two chiral centers, wherein chiral center (2) has a configuration = S and R and wherein chiral center (3) has a S configuration as well as pharmaceutical calc. acceptable salts thereof. Methods of preparation are claimed and prepns. and/or characterization data for .apprx.90 examples of I are included. For example, II was prepared from a 55/45 mixture of (2S)- and (2R)-pentafluorophenyl 2-((4S)-2,2-dimethyl-5-oxo-1,3-dioxolan-4-yl)-4-methylpentanoate (preparation by partial diastereoisomerization of latter isomer) by 1st creating an amide linkage using 1-(2-pyridyl)piperazine (40 %) and then a 2nd amide linkage using hydroxylamine (31 %). IC50 values for inhibition of MMP-1, MMP-2, MMP-9 and MMP-12 by 16 examples of I are tabulated. Also, percentage of inhibition of IL-2-induced peritoneal recruitment of lymphocytes (model for cellular migration that occurs during inflammation) by 8 examples of I are tabulated.

IT **874646-52-3P**, (2S,3S)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[(2R)-2-methyl-4-(pyridin-2-yl)piperazin-1-yl]carbonyl]hexanamide
874646-54-5P, (2S,3S)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[(2S)-2-methyl-4-(2-pyridinyl)piperazin-1-yl]carbonyl]hexanamide
874646-56-7P, (2S,3S)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[(2R)-2-methyl-4-(pyrimidin-2-yl)piperazin-1-yl]carbonyl]hexanamide
874646-58-9P, (2S,3S)-6-(4-Ethoxyphenyl)-3-[[(2R)-4-(2-fluorophenyl)-2-methylpiperazin-1-yl]carbonyl]-N-hydroxy-2-hydroxyhexanamide **874646-79-4P**,
(2S,3R)-6-(4-Ethoxyphenyl)-3-[[4-(4-fluorophenyl)piperazin-1-yl]carbonyl]-N-hydroxy-2-hydroxyhexanamide **874646-82-9P**,
(2S,3R)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[4-[5-(trifluoromethyl)pyridin-2-yl]piperazin-1-yl]carbonyl]hexanamide
874646-85-2P, (2S,3R)-3-[[4-(5-Cyanopyridin-2-yl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide
874646-86-3P, (2S,3R)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[4-(6-methylpyridin-2-yl)piperazin-1-yl]carbonyl]hexanamide

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)
874646-87-4P, (2S,3R)-3-[[4-(6-Chloropyridin-2-yl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide
874646-88-5P, (2S,3R)-3-[[4-(5-Chloropyridin-2-yl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide
874646-89-6P, (2S,3R)-3-[[4-(4-Chloro-2-fluorophenyl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide
874646-92-1P, (2S,3R)-3-[[4-(2-Chlorophenyl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide
874646-93-2P, (2S,3R)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[4-[6-methyl-2-(trifluoromethyl)quinolin-4-yl]piperazin-1-yl]carbonyl]hexanamide **874646-94-3P**,
(2S,3R)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[4-[3-(trifluoromethyl)pyridin-2-yl]piperazin-1-yl]carbonyl]hexanamide
874646-95-4P, (2S,3R)-3-[[4-(3,5-Dichloropyridin-4-yl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide
874646-96-5P, (2S,3R)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[4-(2-methoxyphenyl)piperazin-1-yl]carbonyl]hexanamide **874646-97-6P**
, (2S,3R)-3-[[4-(4-Chlorophenyl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide **874646-98-7P**,
(2S,3R)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[4-(pyrazin-2-yl)piperazin-1-yl]carbonyl]hexanamide **874646-99-8P**,
(2S,3R)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[4-[2-(morpholin-4-yl)ethyl]piperazin-1-yl]carbonyl]hexanamide **874647-00-4P**,
(2S,3R)-3-[[4-(2-Cyanophenyl)piperazin-1-yl]carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide **874647-01-5P**,
(2S,3R)-3-[[4-(2-Fluorophenyl)piperazin-1-yl]carbonyl]-N-hydroxy-2-hydroxy-6-[4-(trifluoromethoxy)phenyl]hexanamide **874647-02-6P**,
(2S,3R)-3-[[4-(6-Chloropyridin-2-yl)piperazin-1-yl]carbonyl]-N-hydroxy-2-hydroxy-6-[4-(trifluoromethoxy)phenyl]hexanamide **874647-04-8P**,
(2S,3R)-N-hydroxy-2-hydroxy-3-[[4-(pyridin-2-yl)piperazin-1-yl]carbonyl]-6-[4-(trifluoromethoxy)phenyl]hexanamide **874647-38-8P**,
(2S,3R)-6-(4-Ethoxyphenyl)-N-hydroxy-2-hydroxy-3-[[4-[2-(2-thienyl)ethyl]piperazin-1-yl]carbonyl]hexanamide **874647-40-2P**,
(2S,3R)-3-[(4-Cyclohexylpiperazin-1-yl)carbonyl]-6-(4-ethoxyphenyl)-N-hydroxy-2-hydroxyhexanamide **874647-54-6P**,
(2R,3S)-3-Benzyl-N-hydroxy-2-hydroxy-4-oxo-4-[4-[4-(trifluoromethoxy)phenyl]piperazin-1-yl]butanamide **874647-55-9P**
, (2S,3S)-3-Benzyl-N-hydroxy-2-hydroxy-4-[(2R)-2-methyl-4-[4-(trifluoromethoxy)phenyl]piperazin-1-yl]-4-oxobutanamide
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; prepn. of piperazine and related N-hydroxy succinic acid diamide derivs. as metalloproteinase inhibitors with therapeutic uses)

RN 874646-52-3 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-2-methyl-γ-oxo-4-(2-pyridinyl)-, (αS,βS,2R)- (CA INDEX NAME)

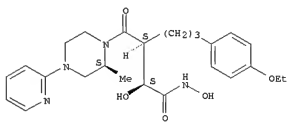
Absolute stereochemistry.



RN 874646-54-5 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-2-methyl-γ-oxo-4-(2-pyridinyl)-, (αS,βS,2S)- (CA INDEX NAME)

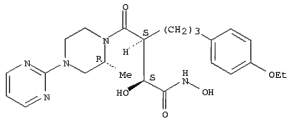
Absolute stereochemistry.

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)



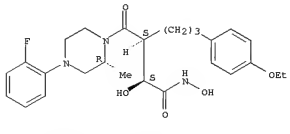
RN 874646-56-7 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-2-methyl-γ-oxo-4-(2-pyrimidinyl)-, (αS,βS,2R)- (CA INDEX NAME)

Absolute stereochemistry.



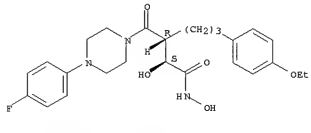
RN 874646-58-9 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-4-(2-fluorophenyl)-N,α-dihydroxy-2-methyl-γ-oxo-, (αS,βS,2R)- (CA INDEX NAME)

Absolute stereochemistry.



RN 874646-79-4 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-4-(4-fluorophenyl)-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

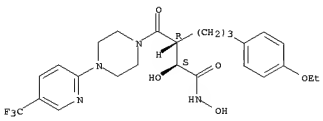
Absolute stereochemistry.



RN 874646-82-9 ZCAPLUS

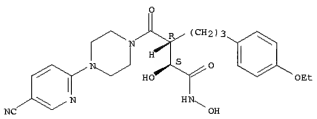
L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-4-[5-(trifluoromethyl)-2-pyridinyl]-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



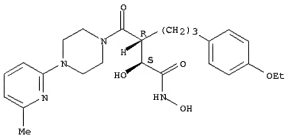
RN 874646-85-2 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(5-cyano-2-pyridinyl)-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



RN 874646-86-3 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-4-(6-methyl-2-pyridinyl)-γ-oxo-, (αS,βR)- (CA INDEX NAME)

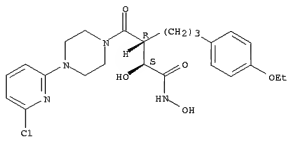
Absolute stereochemistry.



RN 874646-87-4 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(6-chloro-2-pyridinyl)-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

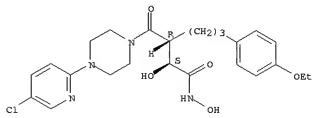
Absolute stereochemistry.

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)



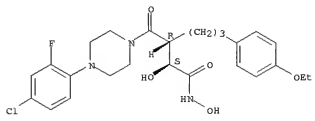
RN 874646-88-5 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(5-chloro-2-pyridinyl)-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



RN 874646-89-6 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(4-chloro-2-fluorophenyl)-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

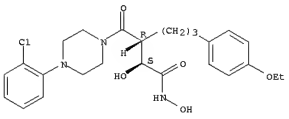
Absolute stereochemistry.



RN 874646-92-1 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(2-chlorophenyl)-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

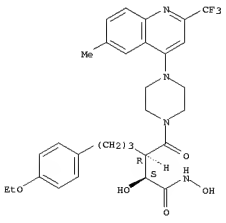
Absolute stereochemistry.

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)



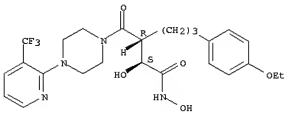
RN 874646-93-2 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-4-[6-methyl-2-(trifluoromethyl)-4-quinolinyl]-γ-oxo-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



RN 874646-94-3 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-4-[3-(trifluoromethyl)-2-pyridinyl]-, (αS,βR)- (CA INDEX NAME)

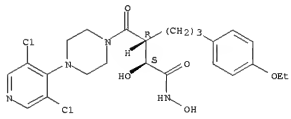
Absolute stereochemistry.



RN 874646-95-4 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(3,5-dichloro-4-pyridinyl)-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

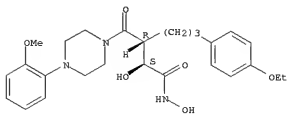
Absolute stereochemistry.

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)



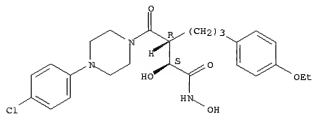
RN 874646-96-5 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-4-(2-methoxyphenyl)-γ-oxo-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



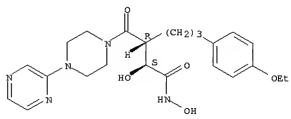
RN 874646-97-6 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(4-chlorophenyl)-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



RN 874646-98-7 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-4-(2-pyrazinyl)-, (αS,βR)- (CA INDEX NAME)

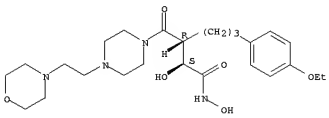
Absolute stereochemistry.



RN 874646-99-8 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-4-[2-(4-morpholinyl)ethyl]-γ-oxo-, (αS,βR)- (CA INDEX NAME)

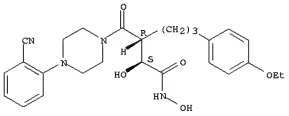
L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)

Absolute stereochemistry.



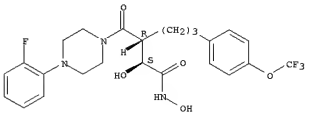
RN 874647-00-4 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(2-cyanophenyl)-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



RN 874647-01-5 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(2-fluorophenyl)-N,α-dihydroxy-γ-oxo-β-[3-[4-(trifluoromethoxy)phenyl]propyl]-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



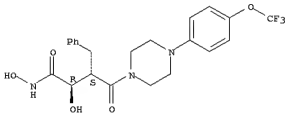
RN 874647-02-6 ZCAPLUS
CN 1-Piperazinebutanamide, 4-(6-chloro-2-pyridinyl)-N,α-dihydroxy-γ-oxo-β-[3-[4-(trifluoromethoxy)phenyl]propyl]-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)

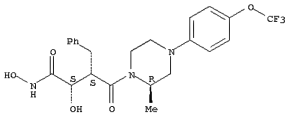
RN 874647-54-8 ZCAPLUS
CN 1-Piperazinebutanamide, N,α-dihydroxy-γ-oxo-β-(phenylmethyl)-4-[4-(trifluoromethoxy)phenyl]-, (αR,βS)- (CA INDEX NAME)

Absolute stereochemistry.



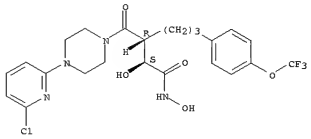
RN 874647-55-9 ZCAPLUS
CN 1-Piperazinebutanamide, N,α-dihydroxy-2-methyl-γ-oxo-β-(phenylmethyl)-4-[4-(trifluoromethoxy)phenyl]-, (αS,βS,2R)- (CA INDEX NAME)

Absolute stereochemistry.



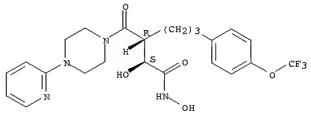
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2009 ACS on STN (Continued)



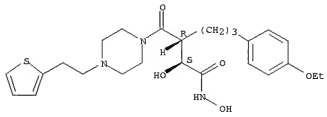
RN 874647-04-8 ZCAPLUS
CN 1-Piperazinebutanamide, N,α-dihydroxy-γ-oxo-4-(2-pyridinyl)-β-[3-[4-(trifluoromethoxy)phenyl]propyl]-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



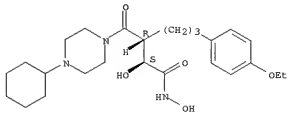
RN 874647-38-8 ZCAPLUS
CN 1-Piperazinebutanamide, β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-4-[2-(2-thienyl)ethyl]-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



RN 874647-40-2 ZCAPLUS
CN 1-Piperazinebutanamide, 4-cyclohexyl-β-[3-(4-ethoxyphenyl)propyl]-N,α-dihydroxy-γ-oxo-, (αS,βR)- (CA INDEX NAME)

Absolute stereochemistry.



```
=> d his

     (FILE 'HOME' ENTERED AT 17:10:30 ON 17 SEP 2009)

     FILE 'ZCAPLUS' ENTERED AT 17:10:45 ON 17 SEP 2009
L1            1 US20060281920/PN

     FILE 'REGISTRY' ENTERED AT 17:11:03 ON 17 SEP 2009

     FILE 'ZCAPLUS' ENTERED AT 17:11:03 ON 17 SEP 2009
L2              TRA L1 1- RN :      118 TERMS

     FILE 'REGISTRY' ENTERED AT 17:11:03 ON 17 SEP 2009
L3          118 SEA L2
L4           57 L3 AND NC2NC2/ES
L5              STR
L6            4 L5
L7           74 L5 FULL
                SAV TEM J433C1RCE/A L7
L8           45 L7 AND L3
L9           29 L7 NOT L8

     FILE 'ZCAPLUS' ENTERED AT 17:20:07 ON 17 SEP 2009
L10           1 L8
L11           1 L9

=>
```